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practical observer. This, said Dr. Hunt, was going back to the notions of those, who, rather than admit that mountains had been formed beneath the sea, imagined that the fossil shells which they often contain were not the real shells of animals, but the result of some freak of nature. The argument of Messrs. King and Rowney that the Eozoon rock is a result of pseudomorphic alteration because it contains serpentine, is a begging of the question at issue, by asking us to admit that the presence of serpentine is an evidence of metamorphic change, which is denied. He then remarked that the specimens of this organic limestone, with its injected crinoids, differed from Eozoonal rock only in containing at the same time recognizable fragments of other organic remains, and in presenting in its injected portions the differences which distinguish the minute structure of a crinoid from that of a calcareous rhizopod. In conclusion, he again adverted to the views which he had long maintained as to the origin of great masses of silicated rocks by a direct process of deposition from watery solutions, in which they were formed by chemical reactions.

Dr. Dawson spoke, confirming the observations of Dr. Hunt, which he had verified by microscopic examinations. He alluded to the structure of crinoids, which in the fossil state were generally filled with carbonate of lime so as to obliterate their pores. The infiltrating silicate in the present case however, showed, especially in decalcified specimens, that these ancient crinoids closely resembled in their minute structure, the modern forms lately studied by Dr. W. B. Carpenter and Professor Wyville Thompson, especially Comatula. Figures of these decalcified specimens were exhibited and will be published. Dr. Dawson alluded further to the process of filling up the porous calcareous skeleton of the crinoids, which was clearly shown to be prior to the cementing and consolidation of the fragmentary limestone.

MICROSCOPY.

The Submersion Microscope.—R. E. Dudgeon, M.D., describes under this name, in the Quarterly Journal of Microscopical Science for July, 1871, a contrivance by which the objective of an ordinary microscope can be plunged in water without affecting its optical qualities. A brass tube with its lower end closed watertight by a flat disc of glass is slipped over the objective from below so far that the glass disc is considerably within the working focus of the lens. Thus protected the lens can be lowered into water, syrup, glycerine, etc., to a depth limited only by the mechanism of the microscope or the length of the protecting tube, and used to view objects floating in the liquid or lying on the bottom of the vessel containing it. While the common "tank microscope" can be worked best somewhat horizontally, through the side of the tank, this arrangement, besides being applicable to much higher powers, is adapted to give a more or less vertical view, being entirely free from any tremor on account of the motion of the top of the water, and is therefore especially useful for dissecting purposes. Its object, though not its method, is identical with that of Tolles' immersion objective for low powers, published more than two years ago; though the latter naturally possesses, being constructed especially for this use and dispensing with two unnecessary surfaces of glass, some optical superiority as well as a much longer working focus. The submersion tube, being applicable to ordinary lenses, only slightly lowering their magnifying power and considerably shortening their working focus, will doubtless be extensively useful; though the statement that it may be always retained in position as a protecting cover to the lens without impairing the definition or illumination in ordinary work, must be considered as too enthusiastic. It is especially applicable to lenses of from one inch to one-quarter inch focus (the latter limited to a very small angle), and the objects should be placed in a jar or tank having the bottom and at least one side quite smooth and transparent.—R. H. W.

NOTES.

Prof. C. F. Hartt, who has already become identified with Brazilian geology, zoology, and archæology, from his three former expeditions, in the first being an assistant to Prof. Agassiz on the Thayer expedition, left New York on July 24th for another and more extensive exploration of the eastern part of the valley of the Amazons. He will continue the series of geographical and geological investigations begun on his last journey, and expects on his return to be able to publish a detailed account of the region